

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Withdrawn-Currently Amended) A process for producing carboxylic acid, comprising converting at least one cyano group of a nitrile compound into a carboxyl group using ~~a the microorganism of claim 8, wherein a variant microorganism defective or reduced in the activity of converting a cyano group into an amide group is used.~~
2. (Canceled)
3. (Withdrawn-Currently Amended) The process for producing carboxylic acid as claimed in claim ~~21~~, wherein said microorganism is a mutant strain of ~~variant strain of a Rhodococcus bacterium is a variant strain of a parent strain Rhodococcus sp. ATCC39484.~~
4. (Withdrawn-Currently Amended) The process for producing carboxylic acid as claimed in claim 3, wherein ~~the variant strain of a parent strain Rhodococcus sp. ATCC39484~~ said microorganism is Rhodococcus sp. SD826 (FERM BP-7305).

5. (Withdrawn) The process for producing carboxylic acid as claimed in claim 1, wherein the nitrile compound is a polynitrile compound having a plurality of cyano groups in the molecule and the carboxylic acid is a cyano carboxylic acid.

6. (Withdrawn) The process for producing carboxylic acid as claimed in claim 5, wherein the polynitrile compound is an aromatic polynitrile compound and the cyano carboxylic acid is an aromatic cyano carboxylic acid.

7. (Withdrawn) The process for producing carboxylic acid as claimed in claim 6, wherein the aromatic polynitrile compound is selected from the group consisting of o-phthalonitrile, isophthalonitrile, and terephthalonitrile, and the aromatic cyano carboxylic acid is corresponding o-cyanobenzoic acid, m-cyanobenzoic acid, or p-cyanobenzoic acid.

8. (Currently amended) An isolated microorganism having an endogenous activity of converting a cyano group into a carboxyl group and being defective or reduced in an endogenous activity of ~~converting a cyano group into an amide group~~ expressing an enzyme activity of a nitrile hydratase having the amino acid sequence shown by SEQ ID NOs 4 and/or 5 of the sequence listing,

wherein said microorganism is a mutant strain of a microorganism belonging to the genus *Rhodococcus*.

9. (Canceled)

10 (Previously presented) The isolated microorganism as claimed in claim 8, wherein said microorganism is a mutant strain of *Rhodococcus* sp. ATCC39484.

11. (Original) A *Rhodococcus* sp. SD826 (FERM BP-7305) strain.

12.-59. (Canceled)

60. (Previously presented) The isolated microorganism according to claim 8, wherein said microorganism has been treated with a mutagen so as to inactivate or reduce the activity of the microorganism to convert a cyano group into an amide group.

61. (Previously presented) The isolated microorganism according to claim 60, wherein said mutagen is selected from the group consisting of an alkylating agent, a nucleotide analog, an intercalating agent and ultraviolet radiation.

62. (Previously presented) The microorganism of claim 8, wherein said microorganism is obtained by a method comprising the steps of:

(i) providing a microorganism belonging to the genus *Rhodococcus* having an endogenous activity of converting a cyano group of a nitrile compound into a carboxyl group by at least two reaction routes, wherein a first reaction route is a one-stage reaction route catalyzed

by a nitrilase, and wherein a second reaction route is a two-stage reaction route catalyzed by a nitrile hydratase and an amidase, wherein said nitrile hydratase produces an amide;

(ii) mutating said microorganism; and

(iii) screening for a mutant microorganism having an endogenous activity of converting a cyano group into a carboxyl group and being defective or reduced in an endogenous activity of converting a cyano group into an amide group.

63. (Previously amended) A method for producing the microorganism of claim 8 comprising the steps of:

(i) providing a microorganism belonging to the genus *Rhodococcus* having an endogenous activity of converting a cyano group of a nitrile compound into a carboxyl group by at least two reaction routes, wherein a first reaction route is a one-stage reaction route catalyzed by a nitrilase, and wherein a second reaction route is a two-stage reaction route catalyzed by a nitrile hydratase and an amidase, wherein said nitrile hydratase produces an amide;

(ii) mutating said microorganism; and

(iii) screening for a mutant microorganism having an endogenous activity of converting a cyano group into a carboxyl group and being defective or reduced in an endogenous activity of converting a cyano group into an amide group.

64. (Previously presented) The isolated microorganism of claim 62, wherein said nitrile compound is a polynitrile compound having at least two cyano groups or is an aromatic polynitrile compound.

65. (Previously presented) The isolated microorganism of claim 62, wherein said amide is selected from the group consisting of o-cyanobenzamide, m-cyanobenzamide, and p-cyanobenzamide.

66. (Previously presented) The isolated microorganism of claim 62, wherein said nitrile compound is a polynitrile compound having a plurality of cyano groups and said carboxyl group is a cyano carboxylic acid.

67. (Previously presented) The isolated microorganism of claim 66, wherein said polynitrile compound is an aromatic polynitrile compound and said cyano carboxylic acid is an aromatic cyano carboxylic acid.

68. (Previously presented) The isolated microorganism of claim 67, wherein said aromatic polynitrile compound is selected from the group consisting of o-phthalonitrile, isophthalonitrile, and terephthalonitrile; and wherein said aromatic cyano carboxylic acid is selected from the group consisting of o-cyanobenzoic acid, m-cyanobenzoic acid, and p-cyanobenzoic acid.

69. (Previously presented) The isolated microorganism of claim 62, wherein said mutant microorganism produces a carboxylic acid upon contacting said microorganism with said nitrile compound, wherein an amount of by-products produced by said microorganism from the nitrile compound is 0.5 mol% or less of a total amount of said carboxylic acid.

70. (Previously presented) The isolated microorganism of claim 62, wherein said mutating is performed with at least one mutagen selected from the group consisting of an alkylating agent, a nucleotide analog, an intercalating agent, and ultraviolet radiation.

71. (Previously presented) The isolated microorganism of claim 62, wherein said mutant microorganism is cultured at less than 40° C.

72. (Currently amended) The isolated microorganism of claim 8, wherein said ~~mutant~~ microorganism is cultured at less than 40° C.

73. (New) An isolated microorganism of claim 8 comprising a nitrilase gene derived from *Rhodococcus* bacterium having a DNA sequence encoding the amino acid sequence shown by SEQ ID NO 2 of the sequence listing.